

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NO. 2021-2-E

Annual Review of Base Rates for Fuel)	
Costs for Dominion Energy South)	<u>PARTIAL PROPOSED ORDER OF</u>
Carolina, Incorporated (For Potential)	<u>THE SOUTH CAROLINA COASTAL</u>
Increase or Decrease in Fuel)	<u>CONSERVATION LEAGUE AND</u>
Adjustment or Gas Adjustment))	<u>SOUTHERN ALLIANCE FOR CLEAN</u>
)	<u>ENERGY</u>

COME NOW Intervenor the South Carolina Coastal Conservation League (“CCL”) and Southern Alliance for Clean Energy (“SACE”), pursuant to oral instructions from the Vice Chair of the Commission at the conclusion of the Hearing on March 2, 2021, hereby file this Proposed Order.

I. INTRODUCTION

This matter comes before the Public Service Commission of South Carolina (“Commission”) on the annual review of the fuel purchasing practices and policies of Dominion Energy South Carolina, Inc. (“DESC” or “Company”) and for a determination as to whether any adjustment in the fuel cost recovery factors is necessary and reasonable. The procedure followed by the Commission in this proceeding is set forth in S.C. Code Ann. § 58-27-865 (2015). Additionally, and pursuant to S.C. Code Ann. § 58-39-140 (2015), the Commission must determine in this proceeding whether an increase or decrease should be granted in the fuel cost component designed to recover the incremental and avoided costs incurred by the Company to implement the Distributed Energy Resource (“DER”) program previously approved by the Commission.

The Company seeks approval for its proposed 2020 update to calculations under the Net Energy Metering (“NEM”) Methodology approved in Commission Order No. 2015-194. Under the NEM Methodology, utilities must determine the net value—i.e. the net benefits—of NEM generation (the “value of solar”) to determine the amount of under- or over-recovered revenue from net metering customers. In the case of under-recovered revenue, utilities may recover the difference, referred to as the “DER NEM Incentive,” from all customers (though subject to certain statutory caps) so that they may continue to offer net metering customers the 1:1 Rate for gross production. In the case of over-recovered revenue, utilities are directed to calculate the credit, if any, to be applied to net metering customers.

The Energy Freedom Act of 2019 (“Act 62”) established additional requirements regarding the costs and benefits of NEM, and directed the Commission to open a generic

docket to “investigate and determine the costs and benefits of the current net energy metering program.” S.C. Code Ann. § 58-40-20(C). The Act also directs the Commission to “establish a methodology for calculating the value of the energy produced by customer-generators.” *Id.* The Commission decision in that generic docket, Docket No. 2019-182-E, is currently pending.

A. Notice and Intervention

By letter dated August 17, 2020, the Clerk’s Office of the Commission instructed the Company to publish a Notice of Hearing and Prefile Testimony Deadlines (“Notice”) in newspapers of general circulation in the area affected by the Commission’s annual review of the Company’s fuel purchasing practices and policies by October 8, 2020. The letter also instructed the Company to furnish the Notice to its customers by U.S. Mail via bill inserts, or by electronic mail to customers who have agreed to receive notice by electronic mail, by October 8, 2020. The Notice indicated the nature of the proceeding and advised all interested parties desiring participation in the scheduled proceeding of the manner and time in which to file appropriate pleadings. On September 16, 2020, the Company filed with the Commission affidavits demonstrating that the Notice was duly published in newspapers of general circulation in accordance with the instructions set forth in the Clerk’s Office’s August 17, 2020 letter. On October 8, 2020, the Company filed with the Commission an affidavit demonstrating that the Notice was appropriately furnished to each affected customer.

Petitions to Intervene were received from the South Carolina Energy Users Committee (“SCEUC”), CMC Steel South Carolina (“CMC Steel”), and the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy

(“CCL/SACE”). Pursuant to S.C. Code Ann. § 37-6-604(C) (2015 & Supp. 2019), the South Carolina Department of Consumer Affairs (“Consumer Affairs”) was provided notice of this Docket which could impact consumers’ utility rates but did not intervene. The Petitions to Intervene of SCEUC, CMC Steel, and CCL/SACE were not opposed by DESC, and no other parties sought to intervene in this proceeding. The South Carolina Office of Regulatory Staff (“ORS”) is automatically a party pursuant to S.C. Code Ann. § 58-4-10(B).

II. STATUTORY STANDARDS AND REQUIRED FINDINGS

S.C. Code Ann. § 58-27-865(B) (2015) states in pertinent part that, “[u]pon conducting public hearings in accordance with law, the [C]ommission shall direct each company to place in effect in its base rate an amount designed to recover, during the succeeding twelve months, the fuel costs determined by the [C]ommission to be appropriate for that period, adjusted for the over-recovery or under-recovery from the preceding twelve-month period.”

Act 62 established additional requirements regarding the costs and benefits of NEM. S.C. Code Ann. § 58-40-20 provides that:

- (A) It is the intent of the General Assembly to:
 - (1) build upon the successful deployment of solar generating capacity through Act 236 of 2014 to continue enabling market-driven, private investment in distributed energy resources across the State by reducing regulatory and administrative burdens to customer installation and utilization of onsite distributed energy resources;
 - (2) avoid disruption to the growing market for customer-scale distributed energy resources; and
 - (3) require the commission to establish solar choice metering requirements that fairly allocate costs and benefits to eliminate any cost shift or subsidization

associated with net metering to the greatest extent practicable.

S.C. Code Ann. § 58-40-20 (C) directed the Commission to open a generic docket by January 1, 2020, to “investigate and determine the costs and benefits of the current net energy metering program.” The statute likewise directs the Commission to “establish a methodology for calculating the value of the energy produced by customer-generators.” *Id.* In evaluating the costs and benefits of the NEM program, the Commission must consider:

- (1) the aggregate impact of customer-generators on the electrical utility’s long-run marginal costs of generation, distribution, and transmission;
- (2) the cost of service implications of customer-generators on other customers within the same class, including an evaluation of whether customer-generators provide an adequate rate of return to the electrical utility compared to the otherwise applicable rate class when, for analytical purposes only, examined as a separate class within a cost of service study;
- (3) the value of distributed energy resource generation according to the methodology approved by the commission in Commission Order No. 2015-194;
- (4) the direct and indirect economic impact of the net energy metering program to the State; and
- (5) any other information the commission deems relevant.

S.C. Code Ann. § 58-40-20 (D). The statute further provides that “[t]he value of the energy produced by customer-generators must be updated annually and the methodology revisited every five years.” S.C. Code Ann. §58-40-20 (E).

Sections 1 and 2 of Act 62 also govern the Commission’s review of renewable energy issues, including those related to revenue recovery. Section 1 requires the Commission to consider renewable energy issues, such as NEM programs, in “a fair and balanced manner.” S.C. Code Ann. § 58-41-05 (2019). It specifically directs the Commission:

to address all renewable energy issues in a fair and balanced manner, considering the costs and benefits to all customers of all programs and tariffs that relate to renewable energy and energy storage, both as part of the utility's power system and as direct investments by customers for their own energy needs and renewable goals.

S.C. Code Ann. § 58-41-05 (2019). Moreover, this section directs the Commission “to ensure that the revenue recovery, cost allocation, and rate design of utilities that it regulates are just and reasonable and properly reflect changes in the industry as a whole, the benefits of customer renewable energy, energy efficiency, and demand response.” S.C. Code Ann. § 58-41-05 (2019).

III. HEARING

The Commission convened a virtual hearing on this matter on April 8, 2021, with the Honorable Florence P. Belser, Vice Chair, presiding. DESC was represented by K. Chad Burgess, Esquire, Matthew W. Gissendanner, Esquire, Michael Anzelmo, Esquire, and Mitchell Willoughby, Esquire. SCEUC was presented by Scott Elliott, Esquire. CCL and SACE were represented by Kate Lee Mixson, Esquire, and Kurt D. Ebersbach, Esquire. ORS was represented by Jeffrey M. Nelson, Esquire, Jenny R. Pittman, Esquire, and Andrew M. Bateman, Esquire. By email dated April 5, 2021, CMC Steel requested to be excused from appearing at the virtual hearing, and the Commission granted this request by email on April 7, 2021.

At the virtual hearing, DESC presented the direct testimony of Rose M. Jackson, Mark C. Furtick, and Michael D. Shinn, Tom Brookmire, and George A. Lippard, the direct and rebuttal testimony of Allen Rooks and Eric H. Bell, and the rebuttal testimony of Margot Everett. CCL/SACE presented the direct and surrebuttal testimony of R. Thomas Beach. ORS presented the direct testimony of Michael Seaman-Huynh, Brandon S.

Bickley, and the direct and surrebuttal testimony of William C. Kleckley and O'Neil O. Morgan. SCEUC did not present witnesses at the hearing.

IV. FINDINGS OF FACT

NEM Component of DER Incentive

1. DESC's value of solar underestimates the benefits that rooftop solar provides to the utility's system; as a result, the Company's calculation of the NEM portion of the DER incentive is incorrect and results in over-recovery.
2. It is unreasonable to equate the value of distributed solar resources with PURPA avoided costs under the NEM Methodology established in Order 2015-194 and in light of Act 62.
3. It is reasonable to calculate the benefits of distributed solar over the expected 25-year lifespan of the resource and unreasonable to use a 10-year period.
4. DESC has unreasonably set zero values for several components of the value stack, including avoided transmission and distribution, fuel hedge, and avoided carbon emissions costs.
5. While the values and specific methodology to calculate the costs and benefits of NEM are at issue in the generic NEM proceeding, they are also at issue here, as the Commission's Order 2015-194 explicitly directs that "[t]he costs and benefits of net metering and the required amount of the DER NEM Incentive shall be computed annually coincident in time with the Utility's filing under the fuel clause." Order No. 2015-194 at 22. Moreover, consistent values should be applied in both dockets.
6. It is reasonable to find for the purposes of calculating the amount of the DER NEM Incentive in this annual fuel proceeding that the value of rooftop solar is at least

equivalent to retail rate such that the value of the DER NEM Incentive should be zero.

V. EVIDENCE AND COMMISSION CONCLUSIONS

A. NEM Component of DER Incentive

Summary of Evidence

The evidence in support of these findings of fact is found in the testimony and exhibits in this Docket and the entire record in this proceeding.

DESC Direct Testimony

DESC Witness Eric Bell presented testimony summarizing DESC's valuation of solar, which was calculated according to the Commission-approved NEM Methodology set out in Order No. 2015-194. (Tr. p. __ [Bell Corrected Direct p. 2]). Witness Bell's testimony shows that, according to DESC, the 10-year levelized value of solar increased over the past year from \$0.03522 to \$0.03857. *Id.* To calculate that value, the Company used a zero value for some components of the NEM Methodology, including Ancillary Services, Transmission and Distribution ("T&D") Capacity, Avoided CO₂ Emission Cost, and Fuel Hedge. (Tr. pp. __ [Bell Corrected Direct pp. 9-10]). The Company evaluated each quantified component of the NEM Methodology over a "Current" and "10-Year Levelized" period. *Id.* The "Current" one-year value is used to calculate the DER NEM Incentive. (Tr. p. __ [Morgan Direct p. 5]).

In support of DESC's valuation and use of zero values for certain components, Witness Bell asserted that DESC's NEM distributed resources do not avoid T&D capacity; he claimed that due to the intermittent nature of solar no contribution to peak demand can be assumed when the Company is evaluating the need for improvement on its power

delivery systems. (Tr. pp. __ [Bell Corrected Direct pp. 15-16]). Witness Bell also maintained that a zero value was appropriate for Avoided CO₂ Emission Cost because “[p]ursuant to Commission Order No. 2015-194, the component of value for avoided CO₂ is set at zero until state or federal laws or regulations result in an avoidable cost on utility systems for these emissions,” and there is currently no such law or regulation. (Tr. p. __ [Bell Corrected Direct p. 17]).

At the hearing, in response to a question from Commissioner Ervin, DESC Witness Rose Jackson confirmed that DESC does use fuel hedge as a way to mitigate risk to its customers. (Tr. p. __ [Video Part 1]).

CCL/SACE Direct Testimony

CCL/SACE Witness R. Thomas Beach presented testimony opposing DESC’s value of solar, explaining that the Company’s calculation ignored key benefits and failed to evaluate the cost and benefits over the useful life of a solar PV. In support of his testimony, Witness Beach presented the findings of a cost-benefit analysis of distributed solar resources in the DESC territory that he previously conducted in Generic NEM Docket using the NEM Methodology; his analysis shows that when all the benefits of solar are fully and fairly accounted for, the benefits exceed the costs. (Tr. p. __ [Beach Direct pp. 3-5; see HE. 7 [Exhibit RTB-2]. Witness Beach recommended that the Commission adopt the value of solar derived in his cost-benefit analysis, derive its own value of solar consistent with the methodology he employed, or require DESC to calculate a revised value of solar according to that revised methodology. . (Tr. p. __ [Beach Direct p. 15])

As background, Witness Beach provided some insight into NEM Methodology adopted in Order 2015-194. Witness Beach explained that the Commission adopted a

methodology in Order No. 2015-194 that calculates the net value—i.e. the net benefits—of DER generation to determine the amount of under- or over-recovered revenue from the net metering customer; in the case of under-recovered revenue, utilities may recover the difference, referred to as the “DER NEM Incentive.” (Tr. p. __ [Beach Direct p. 4]). The methodology set out in Order No. 2015-194 is based on a “value stack” of costs that the utility will avoid (or incur) as a result of using renewable DER generation in lieu of other generation sources; this value stack includes, among others, avoided capacity, T&D capacity, ancillary services, avoided carbon dioxide emission costs, and fuel hedge. *Id.*; see HE. 7 [Exhibit RTB-3]. Witness Beach highlighted the provision in Order No. 2015-194 recognizing that certain components in the value stack may be “placeholders” due to “a lack of capability to accurately quantify a particular category,” but that these values would be updated when reasonable quantifications become available. (Tr. p. __ [Beach Direct p. 5] (citing Order No. 2015-194 at 20)). Witness Beach emphasized that where there is uncertainty about the magnitude of a specific benefit or cost, the default should not be to assign a zero value to that benefit or cost; rather, the Commission should establish a reasonable value for the benefit or cost based on an examination of several cases that span a range of reasonable values for such a benefit or cost. (Tr. pp. __ [Beach Direct pp. 3, 15]).

Using the NEM methodology, Witness Beach demonstrated with his own cost-benefit analysis that, when properly valuing the benefits of rooftop solar, the value of solar in DESC’s territory is \$0.1428 per kWh, which exceeds the retail rate at which solar customers are compensated. (Tr. pp. __ [Beach Direct pp. 7-9]). As a result, Witness Beach testified that there is no difference or “under recovery” of costs by the utility with respect

to distributed solar customers and no corresponding need to impose the NEM portion of the DER Incentive Rider on customers. (Tr. p. __ [Beach Direct p. 9]).

To arrive at that conclusion, Witness Beach calculated the value of solar pursuant to the NEM Methodology and based on a full slate of costs and benefits of distributed solar on the DESC system, including DESC's direct avoided costs, the utility's lost revenues and net metering customer bill savings, solar integration costs, the levelized costs of energy for distributed solar, and the societal benefits of solar. (Tr. p. __ [Beach Direct p. 7]). Of DESC's direct avoided costs, Witness Beach quantified the following components over the full 25-year economic life of distributed solar resources to capture all costs and benefits: Energy, Generation Capacity, Line Losses, Transmission Capacity, Distribution Capacity, Fuel Hedge and GHG Compliance Costs. *Id.* Witness Beach then applied the full set of Standard Practice Manual ("SPM") cost-effectiveness tests to residential solar on the DESC system, including the Participant Test, Ratepayer Impact Measure Test, Utility Cost Test, Total Resource Cost Test, and Societal Cost Test. (Tr. pp. __ [Beach Direct pp. 7-8]). In Witness Beach's analysis, residential distributed solar on the DESC system passed all of the SPM cost-effectiveness tests. (Tr. p. __ [Beach Direct p. 9]).

Witness Beach highlighted three key attributes of his cost-benefit analysis. First, he emphasized the importance of analyzing the benefits and costs from multiple perspectives of key stakeholders—including the utility system as a whole, participating NEM/DER customers, and other ratepayers—to assist the regulator in balancing all interests; for this reason, Witness Beach's analysis evaluates the costs and benefits under the full set of SPM cost-effective tests, a tool the utility industry has developed for this very purpose. (Tr. pp. __ [Beach Direct pp. 9-10]). Second, Witness Beach testified that the value of distributed

rooftop solar should be determined based on a comprehensive list of costs and benefits; unlike traditional Qualifying Facilities under PURPA, rooftop solar has a broader set of benefits and costs because the power is produced and consumed on the distribution system, reducing costs associated with T&D but also potentially requiring some investment in integration. (Tr. pp. __ [Beach Direct pp. 10-11]). Third, Witness Beach emphasized the importance of considering costs and benefits over a time frame that corresponds to the useful life of a distributed solar system, which is 25 to 30 years. (Tr. p. __ [Beach Direct p. 11]). A long-term, life-cycle evaluation captures benefits that will be overlooked in a short-term analysis, such as fuel hedge which provides a valuable long-term hedge against volatile fuel costs, and is also consistent with how the utility assesses the merits of other investments, such as building a new power plant or creating a new energy-efficiency program. *Id.*

Witness Beach noted in his testimony that CCL and SACE have in the past annual fuel proceedings recommended that the Commission quantify each of the benefits of DERs, specifically avoided T&D capacity, avoided line losses, and avoided environmental costs. (Tr. pp. __ [Beach Direct pp. 12-13]). Witness Beach quoted past CCL and SACE testimony, which explained that a lower valuation of NEM DER value increases the difference between retail rate and the determined total value of NEM distributed energy resources, creating a higher rate for DER cost recovery, and thereby overcharging ratepayers. (Tr. p. __ [Beach Direct p. 13]).

DESC Rebuttal

In rebuttal, DESC Witness Bell testified that DESC does not use zero as a default value, but rather, for those components set at zero, the Company has calculated that value

to be zero. (Tr. p. ___ [Bell Rebuttal p. 2]). However, it is clear from his testimony that the Company's calculation resulted in zero values only because the Company assumed zero contribution from DERs toward the value component. For example, Witness Bell asserted that DERs are currently unable to provide Ancillary Services, cannot be relied on to provide T&D capacity because they are intermittent, and provide no fuel hedge benefit that is not already captured in avoided energy costs. (Tr. pp. ___ [Bell Rebuttal pp. 3-5]).

Regarding capacity value, Witness Bell also assumed zero contribution from distributed solar because "DESC's resource plans are based on winter peaks that typically occur before the sun rises in the morning and before solar has begun to generate." (Tr. pp. ___ [Bell Rebuttal pp. 5-6]). At the hearing, however, Witness Bell acknowledged that costs at issue in this proceeding are allocated based on the summer 2019 peak (for actual period expenses) and summer 2020 peak (for forecast period expenses). (Tr. p. ___ [Video Part I, Bell Cross Exam. by Ebersbach]). DESC Witness Rooks also testified that the Company allocates system costs based on a four-hour band of summer peak demand. (Tr. p. ___ [Rooks Corrected Direct p. 6]).

Witness Bell next testified that that Company's 10-year planning period was the more appropriate than the 25-year planning recommended by Witness Beach. (Tr. pp. ___ [Bell Rebuttal pp. 8-9]). Witness Bell testified that Act 62 uses a ten-year period for PURPA Qualified Facilities and the Company therefore believes that this is the appropriate period under which to evaluate DERs. *Id.* Witness Bell asserted that using longer periods to calculate avoided costs results in customers paying more for solar generation in future years because avoided costs decline as more solar is added to the system. *Id.* However, at the hearing, Witness Bell acknowledged that when the Company plans and builds its own

generation resources, its analysis considers “the expected useful lives” of those resources. (Tr. p. __ [Video Part I, Bell Cross Exam. by Ebersbach]).

At the hearing, Witness Bell also acknowledged that the lower the total value of DERS as the company determines it, the higher amount of a NEM incentive that will be charged to customers as a fuel cost. (Tr. p. __ [Video Part I, Bell Cross Exam. by Ebersbach])). As a result, Witness Bell agreed that it was important to ensure that non-participating customers were not overcharged by setting the value of DERs too low. (Tr. p. __ [Video Part I, Bell Cross Exam. by Ebersbach])).

DESC Witness Margot Everett submitted rebuttal testimony in response to Witness Beach, objecting to what she viewed as “several extremely aggressive assumptions regarding the values of all components of avoided costs in the NEM methodology.” (Tr. pp. __ [Everett Rebuttal p. 3]). Most of Witness Everett’s objections relate to T&D capacity costs, despite her acknowledgement at the hearing that when a solar customer is producing and self-consuming energy, they are not using DESC’s T&D system. (Tr. p. __ [Video Part II, Everett Cross Exam. by Ebersbach])). With respect to transmission capacity costs, Witness Everett testified that Witness Beach incorrectly calculates transmission capacity based on a trajectory of load growth that does not consider how costs increase with load growth, resulting in a significantly higher estimate of avoided transmission marginal costs. (Tr. pp. __ [Everett Rebuttal pp. 11-12]). Witness Everett further asserted that “Witness Beach provides no evidence as to whether transmission costs are indeed avoided as a result of customer generation.” (Tr. p. __ [Everett Rebuttal p. 12]). According to Witness Everett, DESC “has demonstrated in numerous dockets” that distributed solar does not avoid transmission capacity costs.” (Tr. p. __ [Everett Rebuttal p. 14]). With respect to

distribution capacity costs, Witness Everett testified that Witness Beach's values are overstated because he fails to account for the intermittency of solar generation. (Tr. p. __ [Everett Rebuttal p. 15]). Witness Everett also noted that Witness Beach's use of a 25-year life "overstates his values by about 10%." *Id.* Like Witness Bell, Witness Everett defended the zero values in DESC's valuation by stating that they were not set at zero but calculated to be zero. (Tr. p. __ [Everett Rebuttal p. 5]). Here too, however, it is clear that the value was "calculated" as zero based on DESC's assumption that DERs do nothing to defer or avoid T&D capacity costs. (*See, e.g.*, Tr. p. __ [Everett Rebuttal p. 15]).

Witness Everett deemed other values used in Witness Beach's analysis "simply not correct." (Tr. p. __ [Everett Rebuttal p. 6]). Specifically, she considered his estimates of energy costs out of date, also noting that Witness Beach neglected to separate out avoided criteria pollutant costs from the avoided energy total, as is DESC's practice. (Tr. p. __ [Everett Rebuttal pp. 7-9]). Next, Witness Everett called into question Witness Beach's estimates of avoided generation capacity, noting that Witness Beach ignores the Commission's recent decisions that set avoided capacity cost values. (Tr. p. __ [Everett Rebuttal p. 9]). Witness Everett similarly objected to Witness Beach's estimation of loss factors based on the fact that he ignores the value used historically in the NEM Methodology; however, Witness Everett noted that DESC had recently proposed a new method to calculate losses in the Generic NEM Docket. (Tr. pp. __ [Everett Rebuttal pp. 22-23]). Witness Everett also testified that Witness Beach double-counted fuel hedge benefits, contending that the long-term hedge value is "already 'baked into' the avoided costs." (Tr. pp. __ [Everett Rebuttal pp. 18-19]). For this reason, the Company sets the long-term hedge value at zero. (Tr. p. __ [Everett Rebuttal p. 19]).

Witness Everett further testified that Witness Beach improperly disregarded the methodology established in Order No. 2015-194 pursuant to a settlement between numerous parties, including DESC, CCL, and SACE, by assigning a non-zero value to certain components in the NEM value stack—specifically avoided CO₂ emissions. (Tr. pp. __ [Everett Rebuttal pp. 4-5, 17]). Witness Everett also concluded that Witness Beach only found distributed solar cost-effective because of his “inflated” values; relying on zero values for several cost components, and lower values for other components, Witness Everett found that residential solar was not cost-effective. (Tr. pp. __ [Everett Rebuttal pp. 23-24]).

CCL and SACE Surrebuttal

In surrebuttal, CCL/SACE Witness Beach responded to DESC Witness Everett’s assertions that his analysis used “extremely aggressive assumptions regarding the values of all components in the NEM methodology” and disregarded the methodology established in Order 2015-194 pursuant to a settlement between numerous parties, including DESC, CCL, and SACE, by assigning a non-zero value to certain components in the NEM value stack. (Tr. pp. __ [Beach Surrebuttal pp. 2-3]). In response to her characterization of his assumptions, Witness Beach observed that Witness Everett continues to disregard quantifiable benefits of distributed solar that have been widely recognized across the country and even by this Commission. (Tr. p. __ [Beach Surrebuttal p. 2]). Witness Beach testified that there are well-accepted techniques to quantify the benefits of solar or derive a reasonable non-zero value, providing the example of DESC’s IRP which already considers carbon compliance costs in resource planning despite the absence of any federal or state laws or regulations mandating carbon reduction. (Tr. pp. __ [Beach Surrebuttal pp.

2-3])). In response to Witness Everett's claim that Witness Beach disregarded the NEM analysis approved in Order No. 2015-194, Witness Beach presented the language from the settlement in that proceeding clarifying that while the parties anticipated some avoided cost components of the value of solar would initially be set at zero, they also expected those zero or placeholder values to be updated; there was nothing in that 2014 settlement to indicate that those placeholder or not yet quantified values accepted under the stipulation should remain set at zero. (Tr. pp. __ [Beach Surrebuttal pp. 3-4])).

Witness Beach disagreed with Witness Bell's argument that Act 62 requires calculating levelized energy price over a 10-year-period. (Tr. pp. __ [Beach Surrebuttal pp. 6-7])). He noted that the provision in Act 62 referenced by DESC Witnesses Bell and Everett actually relates to power purchase agreements for utility-scale qualifying facilities and that nothing in Order No. 2015-194 requires that levelized energy costs be limited to 10 years. (Tr. p. __ [Beach Surrebuttal p. 6])). Witness Beach again reiterated the importance of valuing distributed solar resources over their 25- to 30-year economic lives. (Tr. p. __ [Beach Surrebuttal p. 7])). This treats distributed solar on the same basis as other utility resources, both demand- and supply-side. *Id.*

Witness Beach again testified with respect to avoided T&D capacity that distributed solar provides real benefits to the utility system. (Tr. pp. __ [Beach Surrebuttal pp. 8, 11])). Witness Beach testified that DESC is an outlier among utilities nationally in insisting there is no avoided T&D benefit from DERS; the benefits has been quantified in nearly every jurisdiction, including by the Duke utilities that operate in South Carolina. (Tr. p. __ [Beach Surrebuttal p. 8])); Tr. p. __ [Video Part II, Beach Re-Direct]. Witness Beach noted that DESC has refused to conduct an analysis quantifying the avoided T&D costs of distributed

solar, even though Act 62 expressly calls for such consideration by the Commission. (Tr. p. __ [Beach Surrebuttal p. 8]); *see also* Tr. p. __ [Video Part II, Everett Cross Exam. by Ebersbach] (Everett admission that she did not conduct a cost of service analysis required by S.C. Code Ann. § 58-40-20 (D)(2) that would have revealed avoided T&D costs)). In this respect, Witness Beach labeled Witness Bell and Witness Everett's claim that the Company did not "set" certain "value stack" components at zero, but rather calculated them as zero, a "distinction without a difference." (Tr. p. __ [Beach Surrebuttal p. 11]). In either case, the Company is assuming capacity costs cannot be avoided by customer solar generation, which is inconsistent with utility experience across the country, including in the southeast. *Id.*

Relatedly, Witness Beach responded to Witness Bell's assertion that DER resources do not avoid T&D capacity costs because peak loads now occur on winter mornings when solar resources are not producing significantly. (Tr. pp. __ [Beach Surrebuttal pp. 11-12]). Witness Beach pointed out that DESC uses summer peak to allocate its generation and transmission costs to the residential class and that his analysis shows that DESC's peak loads (defined as loads with 10% of the annual peak hourly load) occur predominantly in the summer months. *Id.*; *see* HE. 7 [Exhibit RTB-2 pp. 6-7]. Moreover, according to Witness Beach, utilities do not typically make investments in their T&D systems by looking only at when the system peak hour occurs but instead use data on when peak loads occur on the discrete components of the T&D system (e.g. substations and circuits) that may need to be upgraded or replaced. (Tr. p. __ [Beach Surrebuttal p. 12]). Witness Beach's analysis of the solar contribution to avoided T&D costs looked at the timing of peak loads (again, defined as loads with 10% of the annual peak hourly load)

at all DESC T&D substations; he found that many peak loads at DESC's substations occur on summer afternoons when solar output is high, indicating that distributed solar can make a significant contribution to reducing the need for future investments in the DESC T&D system. *Id.*; see HE. 7 [Exhibit RTB-2 pp. 10-13].

Witness Beach next refuted Witness Everett and Witness Bell's claims that his cost-benefit analysis double-counted the benefits of rooftop solar. He first rejected the assertion that long-term value of fuel hedge is captured in avoided cost estimates because it assumes a lower reliance on gas, noting that this response completely misunderstands the nature of avoided costs, which are the costs of the generation whose output is avoided, *i.e.* not taken, as a result of the use of the renewable output of distributed solar. (Tr. p. ___ [Beach Surrebuttal p. 9]; see also *id.* pp. 9-10 (making the same point with respect to ancillary services)). Simply because a utility's portfolio may include some utility-scale renewable generation (which is not avoided) does not mean that distributed solar does not provide a further hedge against natural gas price volatility for the portions of the portfolio still reliant on natural gas. (Tr. p. ___ [Beach Surrebuttal p. 9]). Witness Beach further explained that the avoided resources are largely gas-fired utility plants whose costs clearly fluctuate with volatile short-term gas prices and by replacing this gas-fired generation with fixed-price renewables, this cost volatility is avoided, and a long-term hedge against such volatility is provided to ratepayers. *Id.* In response to Witness Bell's testimony that that federal and state tax credits already account for the value of the societal benefits of solar, Witness Beach pointed out that the quantifiable societal benefits of distributed solar generation presented in his analysis total about 17 cents per kWh, which far exceeds the value of the

state and federal tax credits available to solar customers in South Carolina, which are about 8 cents per kWh. (Tr. p. __ [Beach Surrebuttal p. 10]); HE. 7 [Exhibit RTB-2, pp. 19-21].

Witness Beach explained why he had used certain updated values, specifically Generation Capacity and T&D losses, in his analysis, rather than use values that the Commission has approved in past proceedings. Witness Beach testified that he did not ignore those Commission values but considered them incorrect and out of date in that they do not reflect lifecycle benefits and do not adequately account for the avoided generation and capacity contributions of distributed solar. (Tr. p. __ [Beach Surrebuttal p. 8]). Witness Beach noted that this position was consistent with Act 62's mandate to consider "the aggregate impact of customer-generators on the electrical utility's long-run marginal costs of generation, distribution, and transmission." *Id.* (quoting S.C. Code Ann. § 58-40-20(D)(1)). Witness Beach also considered it an appropriate time to revisit cost and benefit values given that Act 62, enacted in May 2019, directs the commission to "investigate and determine the costs and benefits of the current net energy metering program" and "establish a methodology for calculating the value of the energy produced by customer-generators." (Tr. p. __ [Beach Surrebuttal p. 5] (quoting S.C. Code Ann. § 58-40-20(C))). Witness Beach observed that the Commission has considered and adopted new values and assumptions relating to solar and carbon benefits and costs in recent proceedings, such as DESC's IRP proceeding in Docket No. 2019-226-E, and the value of distributed solar should not be insulated from those revised assumptions and values. (Tr. p. __ [Beach Surrebuttal p. 5]). Lastly, Witness Beach testified that any revisions to cost-benefit component values approved by the Commission in Docket No. 2019-182-E should be carried over and applied

to the determination of the DER NEM Incentive in this proceeding. (Tr. p. ___ [Beach Surrebuttal pp. 10-11]).

Witness Beach's testimony provided two additional responses to DESC Witness Everett. First, with respect to his marginal energy costs being out of date, he explained that new estimates may alter the starting point of his analysis slightly but would not change his conclusion that DESC's value of solar was too low. (Tr. p. ___ [Beach Surrebuttal p. 6]). Second, with respect to his estimate of avoided costs relating to criteria pollutants and other environmental costs, Witness Beach agreed that those costs should be listed separately from avoided energy costs, but he could not separate them out without access to the detailed outputs of the production cost model. (Tr. p. ___ [Beach Surrebuttal p. 7]).

Commission Conclusions

We are persuaded by the evidence presented by Witness Beach that the Company has failed to properly value solar for purposes of calculating the NEM incentive recoverable from customers. While the specific values and methodology to value solar are at issue in the generic net metering proceeding, they are also at issue here because our Order No. 2015-194 expressly directs that "[t]he costs and benefits of net metering and the required amount of the DER NEM Incentive shall be computed and updated annually coincident in time with the Utility's filing under the fuel clause." Order No. 2015-194 at 22. Moreover, we believe the values determined in the generic proceeding and in this proceeding should be consistent.

We would further note that S.C. Code Ann. 58-40-20(A)(3), as established under Act 62, requires the Commission to "establish solar choice metering requirements that fairly allocate costs and benefits to eliminate any cost shift or subsidization associated with

net metering to the greatest extent practicable.” While section (A)(3) is part of Act 62’s requirements for new solar choice tariffs, which are not at issue in this fuel docket, we nevertheless conclude that the declaration of legislative intent to mitigate cost shifts associated with net metering is relevant to our consideration of the NEM DER incentive. To the extent that the value of distributed solar is set to an artificially low value that is not reflective of the legislative mandates in Act 62, the utility will over-recover from its customers for costs associated with the existing net metering programs. The Commission takes note of DESC’s and ORS’s concern in the solar choice dockets with this issue of potential cost shifts to nonparticipating customers and finds that correcting the value of solar will reduce the amount collected from all ratepayers through the NEM DER incentive, which is a way to immediately address those concerns in ways that are consistent with the overarching framework and intent of Act 62.

DESC’s reliance on PURPA avoided costs is improper in light of the separate requirements in the NEM Methodology and in Act 62 for avoided costs versus net metering. DESC has put forth no evidence in this proceeding attempting to square the NEM incentive with the new requirements of Act 62 to ensure that it is not over-recovering from all its current customers through the NEM portion of the DER incentive. Moreover, PURPA avoided costs are for utility-scale generators and fail to account for several avoided T&D benefits that are particular to distributed solar because it is close to load.

We further find that DESC’s valuation of the benefits of solar only over a 10-year period is unreasonable and inconsistent with the new requirements of Act 62. The 10-year period, again, is for PURPA avoided costs; Act 62 requires that the costs and benefits of net metering be measured over the “long run.” Like other generation resources, the benefits

of distributed solar should be measured over the life of the resource, which is 25 years. As a result, DESC's valuation of solar is an underestimate and results in an unreasonably inflated NEM component of the DER incentive, and thus over-recovery by DESC.

Finally, we find that DESC has unreasonably failed to set non-zero values for several components of the value stack that explicitly were intended to be "placeholder" values to be quantified. These include avoided T&D capacity costs and fuel hedge costs. DESC admitted at the hearing that it does use fuel hedge as a way to mitigate risk to its customers, yet has failed to analyze how solar provides fuel hedging benefits over the long term.

While the values and specific methodology to calculate the costs and benefits of NEM are at issue in the generic NEM proceeding, in the interim we find that the evidence presented by Witness Beach is sufficient to support a finding that the value of rooftop solar is at least equivalent to retail rate, and therefore that there is no need for DESC to recover the NEM component of the DER incentive over the test period.

VI. ORDERING PARAGRAPHS

NOW, THEREFORE, IT IS HEREBY ORDERED THAT:

1. DESC is required to recalculate its DER incentive using a value of solar equivalent to retail rate.

BY ORDER OF THE COMMISSION:

Justin T. Williams, Chairman
Public Service Commission of
South Carolina

CERTIFICATE OF SERVICE

I hereby certify that the parties listed below have been served via first class U.S. Mail or electronic mail with a copy of the *Partial Proposed Order* of the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy.

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This 16th day of April, 2021.

s/Kate Lee Mixson